

Advanced Visible Camera for Extreme Radiation Environments, Phase I

Completed Technology Project (2018 - 2019)



Project Introduction

Space Micro proposes to develop and qualify an advanced visible camera for high radiation and thermal environments. We will leverage soem

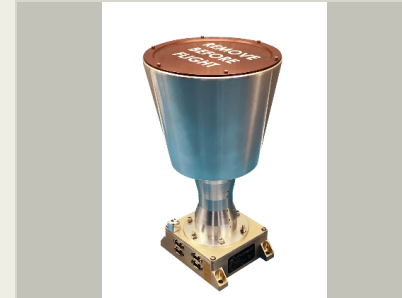
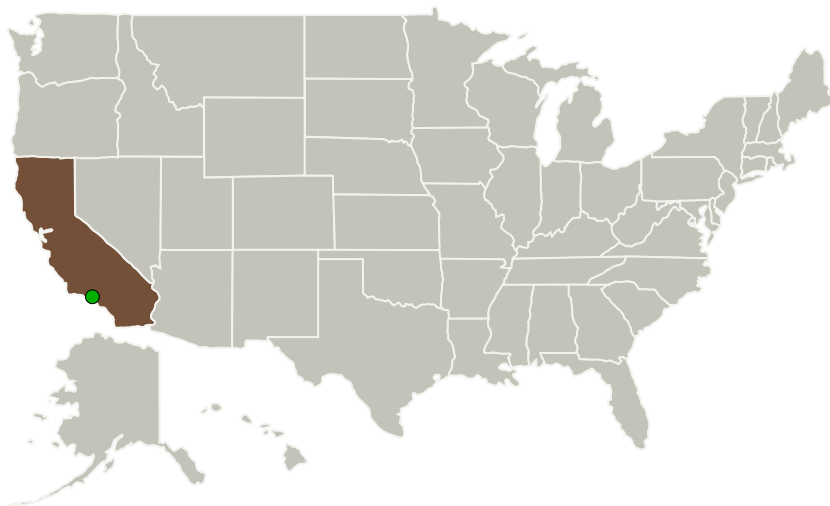
Anticipated Benefits

The cross-cutting space product evolving from this SBIR has the potential to add value to and enable many potential NASA space missions. Some of these future NASA missions include Lucy, Psyche, IXPE, Restore, Hermes, Whipple, TIME, Hera, Chopper, etc. which encompass both Discovery-class and SMEX missions.

Customers include NASA centers, spacecraft prime contractors and even university CubeSat projects. Space Micro has worked with most of the satellite prime companies and also the NASA centers.

This product can be scaled for a wide range of customers, including emerging commercial constellations for space-based Internet service and Earth observation data e.g. (Google, WorldVu, SpaceX, etc. There are also a number of DoD (Air Force, MDA< NRO) space applications; Space Micro will manufacture and market this product to potential DoD customers and spacecraft primes. International space programs (ESA, ISRO, JAXA, etc.) are also potential customers, subject to export control and ITAR.

Primary U.S. Work Locations and Key Partners



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Organizations Performing Work	Role	Type	Location
Space Micro, Inc.	Lead Organization	Industry	San Diego, California
● Jet Propulsion Laboratory(JPL)	Supporting Organization	NASA Center	Pasadena, California

Primary U.S. Work Locations

California

Project Transitions

**July 2018:** Project Start**February 2019:** Closed out

Closeout Documentation:

- Final Summary Chart(<https://techport.nasa.gov/file/141253>)

Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Organization:

Space Micro, Inc.

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Principal Investigator:

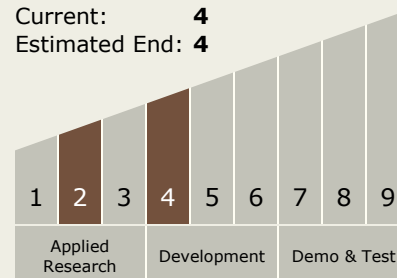
Michael Jacox

Technology Maturity (TRL)

Start: 2

Current: 4

Estimated End: 4

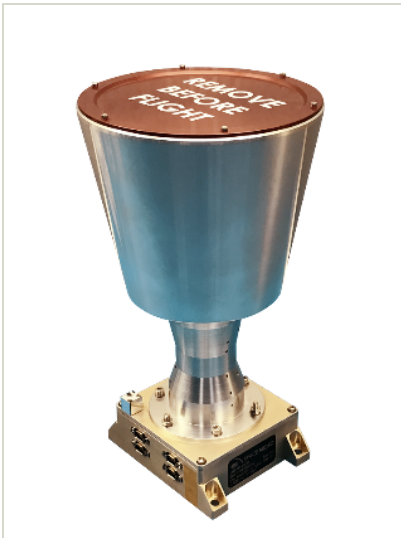


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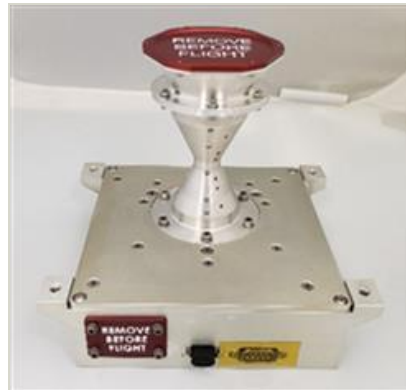
Images



Briefing Chart Image

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(<https://techport.nasa.gov/image/129664>)



Final Summary Chart Image

Advanced Visible Camera for
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(<https://techport.nasa.gov/image/137027>)

Technology Areas

Primary:

- TX10 Autonomous Systems
 - └ TX10.2 Reasoning and Acting
 - └ TX10.2.5 Fault Diagnosis and Prognosis

Target Destinations

Earth, Mars, Others Inside the
Solar System